CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 85-63
NPDES NO. CA0028827
WASTE DISCHARGE REQUIREMENTS

MEMOREX CORPORATION
MEMOREX DRIVE FACILITY
CITY OF SANTA CLARA
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. Memorex Corporation, hereinafter called the discharger, by application dated March 18, 1985, has applied for issuance of waste discharge requirements and a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).

2. The discharger owns and operates a tape manufacturing facility located at 1200 Memorex Drive, City of Santa Clara. As part of its manufacturing process, the discharger operates an underground solvent storage and distribution system. Subsurface investigations previously completed have shown that the groundwaters beneath the facility are polluted with organic solvents such as ketones, alcohols, xylenes, and trace amounts of halogenated hydrocarbons. The polluted groundwater is suspected to be a result of spillage, inadequate chemical handling practices, overflows, or possible leakage from tanks or piping.

3. The discharger has reasonably defined the areal and vertical extent of the contaminant plume, and is proceeding to monitor any changes in the plume configuration. Aquifer testing has also been completed, and has shown that extraction pumping will be an effective means of controlling the contaminant plume. Accordingly, the discharger has proposed to extract contaminated groundwaters, provide treatment by activated carbon, and discharge the treated groundwaters to the Guadalupe River. The discharger is also considering other treatment alternatives which will achieve equivalent pollutant reduction in the discharge.

4. Waste stream 001 will consist of up to 30,000 gallons per day of contaminated groundwater as part of the groundwater cleanup program. The extracted groundwater will be treated by carbon adsorption, or alternative treatment system capable of achieving equivalent reduction of pollutants in the discharge, followed by discharge to the storm drain tributary to the Guadalupe River and South San Francisco Bay.

5. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for the Guadalupe River and for South San Francisco Bay and discharge prohibitions discussed below.

6. The beneficial uses of South San Francisco Bay and the Guadalupe River are:

   - Contact and non-contact water recreation
   - Wildlife habitat
   - Preservation of rare and endangered species
   - Estuarine habitat
   - Warm Fresh water and cold fresh water habitat
   - Fish spawning and migration
   - Industrial service supply
   - Shellfishing
   - Navigation
   - Open commercial and sport fishing

7. Effluent limitations, toxic effluent standards, established pursuant to Section 301, 304, and 307 of the Clean Water Act and amendments thereto are applicable to the discharge.

8. The Basin Plan prohibits discharge of wastewater which has "particular characteristics of concern to beneficial uses: (a) "at any point in San Francisco Bay south of the Dumbarton Bridge" and (b) "at any point where the wastewater does not receive a minimum initial dilution of at least 10:1 or into any nontidal water, deadend slough, similar confined water, or any immediate tributary thereof."

9. The Basin Plan allows for exceptions to the prohibitions referred to in Finding 8 above when it can be demonstrated that a net environmental benefit can be derived as a result of the discharge.

10. Exceptions to the prohibitions referred to in Finding 8 are warranted because the discharge is an integral part of a program to cleanup contaminated groundwater and thereby produce an environmental benefit, and because receiving water concentrations are expected to be below levels that would effect beneficial uses.

11. The Basin Plan prohibits discharge of "all conservative toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, to waters of the Basin." The discharger's groundwater extraction and treatment system and associated operation, maintenance, and monitoring plan constitutes an acceptable control program for minimizing the discharge of toxicants to waters of the State.

12. Effluent limitations of this Order are based on the Basin Plan, State Plans and policies, and best engineering judgement.

13. The issuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.

14. The Board has notified the discharger and interested agencies and persons of its intent to issue waste discharge requirements for the discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

15. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the discharger, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Effluent Limitations

1. The discharge of waste 001 containing constituents in excess of the following limits is prohibited:

Constituents	Units	30 Day Average	Daily Maximum
Methyl Ethyl Ketone	mg/l	1.	30.
Total concentration of all other organic solvents*	mg/l	0.100	0.200

*Defined as cyclohexanone, Freon 113, toluene, cyclohexanol, isopropal alcohol, o, m, and p xylene, ethyl benzene, acetone, benzene, trichloroethane, 1,1-dichloroethane, trichloroethylene, 1,1-dichloroethylene, 1,2-dichloroethylene, and dichlorodifluoromethane.

2. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.

3. In any representative set of samples, the discharge of Waste 001 shall meet the following limit of quality:

TOXICITY:

The survival of rainbow trout test fishes in 96 hour bioassays of the effluent as discharged shall be a median of 90% survival and a 90 percentile value of not less than 70 percent survival.

B. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place.

   a. Floating, suspended, or deposited macroscopic particulate matter or foam;

   b. Bottom deposits or aquatic growths;

   c. Alteration of temperature or apparent color beyond present natural background levels;

   d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

   e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the surface:

a.	Dissolved oxygen	5.0 mg/l minimum - median for any three consecutive months not less than 80% saturation. When natural factors cause lesser concentration(s) than specified above, then discharge shall not cause further reduction in the concentration of dissolved oxygen.

b.	pH	Variation from natural ambient pH by more than 0.5 pH units.
c.	Un-ionized ammonia	0.025 mg/l as N Annual Median. 0.4 mg/l as N Maximum

3. The discharge shall not cause a violation of any applicable water quality standards for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The discharger shall comply with all sections of this order immediately upon adoption.

2. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.

3. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977, except items A.5, A.12, B.2, B.3, B.5, and C.2.

4. This Order expires May 15, 1990. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

5. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on May 15, 1985.

ROGER B. JAMES
Executive Officer

Attachments:
Standard Provisions & Reporting Requirements, April 1977
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

Memorex Corporation

Santa Clara, Santa Clara County

ORDER NO. 85-63

NPDES NO. CA0028827

CONSISTS OF

PART A

AND

PART B

PART B

I. Description of Sampling Stations

A. Influent

Station	Description
I-1	At a point in the groundwater extraction system immediately prior to treatment (see attached flow diagram, SP-1)

B. Effluent

Station	Description
E-1	At a point immediately following treatment by the first carbon unit of two in series (see attached flow diagram, SP-1).
E-2	At a point immediately following treatment by the second carbon unit (see attached flow diagram SP-1).

C. Receiving Water

C-1	At a point in the Guadalupe River at least 100 yards but no more than 200 yards downstream from the point of discharge.

II. Schedule of Sampling and Analysis

A. The schedule of sampling and analysis shall be that given as Table 1.

III. Modifications of Part A, dated January 1978

A. This monitoring program should abide by all items in part

A as appropriate, excluding the following: C.3, C.4, C.5, D.1, D.2, D.3.6, D.3.c, D.4, E.3, E.4, F.1, F.3.c, F.3.e, F.3.g.

B. Results shall be reported in a format similar to those of Table I of Appendix A, page 4 of Appendix B, Table 4 of Appendix D.

C. Laboratory results shall include indication of analytical method used and detection limit.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 85-63.

2. Is effective on the date shown below.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer.

ROGER B. JAMES
Executive Officer

Effective Date_____

TABLE 1

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I-1		E-1		E-2		C-1						
TYPE OF SAMPLE		G		G		G		G					
Flow Rate (mgd)		D											
BOD, 5-day, 20°C													
Chlorine Residual & Dosage (mg/l & kg/day)													
Settleable Matter (ml/l-hr. & cu. ft./day)													
Total Suspended Matter (mg/l & kg/day)													
Oil and Grease (mg/l & kg/day)													
Coliform (Total or Fecal) (MPN/100 ml) per req't													
Fish Tox'y 96-hr. TL % Surv'l in undiluted waste						Q							
Ammonia Nitrogen (mg/l & kg/day)													
Nitrate Nitrogen (mg/l & kg/day)													
Nitrite Nitrogen (mg/l & kg/day)													
Total Organic Nitrogen (mg/l & kg/day)													
Total Phosphate (mg/l & kg/day)													
Turbidity (Jackson Turbidity Units)													
pH (units)						M							
Dissolved Oxygen (mg/l and % Saturation)						M/Q		M/Q					
Temperature (°C)						Q							
Apparent Color (color units)													
Secchi Disc (inches)													
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)													
Arsenic (mg/l & kg/day)													
Cadmium (mg/l & kg/day)													
Chromium, Total (mg/l & kg/day)													
Copper (mg/l & kg/day)													
Cyanide (mg/l & kg/day)													
Silver (mg/l & kg/day)													
Lead (mg/l & kg/day)													

TABLE 1 (continued)

SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	I-1	E-1	E-2	C-1
TYPE OF SAMPLE	G	G	G	G
Mercury (mg/l & kg/day)				
Nickel (mg/l & kg/day)				
Zinc (mg/l & kg/day)				
Phenolic Compounds (mg/1 & kg/day)				
All Applicable Standard Observations			Q	Q
Bottom Sediment Analyses and Observations				
Total Ident. Chlor. Hydrocarbons (mg/l & kg/day)(1)	W/Q		W/Q	
Ketones and Alchols (2) (mg/l)	3/W	3/W	3/W	Q
Alkyl Benzenes (mg/l) (3)	3/W	3/W	3/W	Q
Aromatics (mg/l) (4)	W/M		W/M	Q

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
C-X = composite sample - X hours (used when discharge does not continue for 24-hour period)
Cont = continuous sampling
DI = depth-intergrated sample
BS = botto

TYPES OF STATIONS

I = intake and/or water supply stations
A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations
B = bottom sediment stations

FREQUENCY OF SAMPLING

W = once each week
M = once each month
Q = quarterly, once in March, June, September, and December
M/Q = Monthly at startup of operation; reduced to quarterly after staff review of first 3 months of operation
3/W = 3 days per week

Footnotes to sampling Schedule

(1) A GC/MS scan (VOA) weekly for the first month of operation, and quarterly thereafter. All peaks shall be identified, including non-priority pollutants.

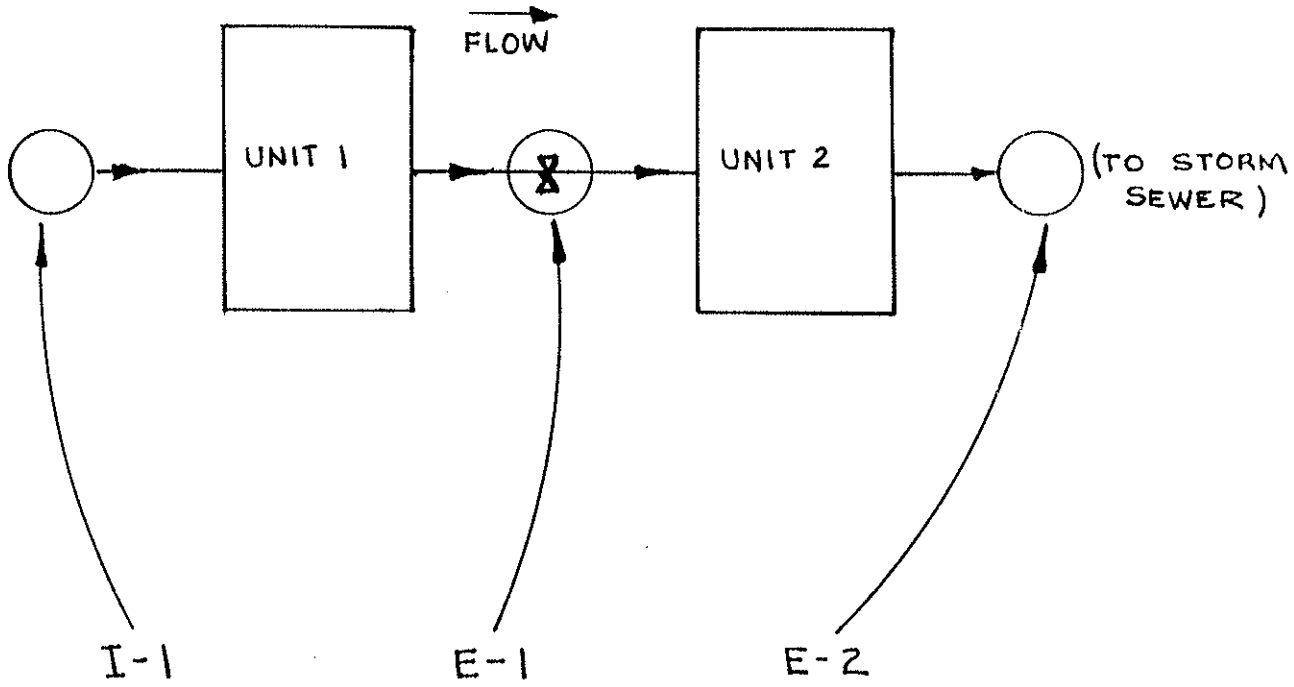
(2) Defined as methyl ethyl ketone, cyclohexanone, acetone, isopropanol, and cyclohexanol. To be analyzed 3 times weekly.

(3) Defined as o,m, and p xylenes, and ethyl benzene. To be analyzed three times weekly.

(4) Defined as toluene and benzene; To be analyzed weekly for the first month of operation, and monthly thereafter.

FLOW DIAGRAM ILLUSTRATING SAMPLING POINT LOCATIONS

CARBON ADSORPTION TREATMENT SYSTEM



STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

DIAGRAM SP-1

DRAWN BY: RWM | DATE: 3/15/85 | DRWG. NO.